

AMENDMENT TO THE CLAIMS

Claims 1 – 20 (Canceled)

Claim 21 (Currently Amended) ~~An~~ A thin film of layered superlattice material in an integrated circuit comprising:

~~a substrate; and~~

a thin film of a layered superlattice material formed on said ~~a~~ substrate, said ~~thin film~~ layered superlattice material having the formula $A_{m-1}(Bi_{1-x}Lan_x)_2M_mO_{3m+s}$, where in which A is an A-site element, M is a B-site element, O is oxygen, and m is an integer or a fraction, Lan represents one or more of the materials selected from the group consisting of lanthanum, cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterblum, and lutetium, and $0 < x < 1$; and

wherein said formula does not include $(Bi_{1-x}Lan_x)_4Ti_3O_{12}$.

Claim 22 (Canceled)

Claim 23 (Currently Amended) ~~An integrated circuit~~ A thin film as in claim 21 wherein $0.1 \leq x \leq 0.9$.

Claim 24 (Currently Amended) ~~An integrated circuit~~ A thin film as in claim 23 wherein $0.1 \leq x \leq 0.5$.

Claim 25 (Currently Amended) ~~An integrated circuit~~ A thin film as in claim 21 wherein said formula comprises $A(Bi_{1-x}Lan_x)_2Ta_{1-y}Nb_yO_9$ where A = Sr, Ca, Ba, or Pb and $1 \leq y \leq 0$.

Claim 26 (Currently Amended) ~~An integrated circuit~~ A thin film as in claim 21 wherein said formula comprises $(Bi_{1-x}Lan_x)_2Bi_4Ti_3O_{15}$.

Claim 27 (Currently Amended) ~~An integrated circuit~~ A thin film as in claim 21 wherein said formula comprises $A(Bi_{1-x}Lan_x)_4Ti_4O_{15}$ where A = Sr, Ca, Ba, or Pb.

Claim 28 (Currently Amended) ~~An integrated circuit~~ A thin film as in claim 21 wherein said formula comprises $A_2(Bi_{1-x}Lan_x)_4Ti_5O_{18}$, where A = Sr, Ca, Ba, or Pb.

Serial No. 09/998,364

Amendment and Remarks Responsive

To Office Action Mail d 09/10/03

Page 3

189545v1

Claim 29 (Currently Amended) ~~An integrated circuit~~ A thin film as in claim 21 wherein said formula comprises $(A_{z-1}Lan_{(2/3)z})_{m-1}Bi_2M_mO_{3m+3}$, where A is an A-site element other than a lanthanide, M is a B-site element, Lan is one or more of lanthanum, cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium, and lutetium, $0 < z \leq 1$ and m is an Integer or a fraction.

Claim 30 (Currently Amended) ~~An integrated circuit~~ A thin film as in claim 29 wherein $0.1 \leq z \leq 0.9$.

Claim 31 (Currently Amended) ~~An integrated circuit~~ A thin film as in claim 29 wherein $0.1 \leq z \leq 0.5$.

Claim 32 (Currently Amended) ~~An integrated circuit~~ A thin film as in claim 29 wherein said formula comprises $Lan_{2/3}Bi_2Ta_yNb_{1-y}O_9$, where $0 \leq y \leq 1$.

Claim 33 (Currently Amended) ~~An integrated circuit~~ A thin film as in claim 21 wherein said formula comprises $(A_{1-z}Lan_{(2/3)z})_{m-1}(Bi_{1-x}Lan_x)_2M_mO_{3m+3}$, where $0 < z \leq 1$.

Claim 34 (Currently Amended) ~~An integrated circuit~~ A thin film as in claim 33 wherein said formula comprises $(Bi_{1-z}Lan_z)_{2/3}(Bi_{1-x}Lan_x)_2B_2O_9$, where B is a B-site element.

Claim 35 (Currently Amended) ~~An integrated circuit~~ A thin film as in claim 21 wherein said thin film of a layered superlattice material includes titanium.

Claim 36 (Currently Amended) ~~An integrated circuit~~ A thin film as in claim 21 wherein said Lan represents lanthanum.

Claim 37 (Currently Amended) ~~An integrated circuit~~ A thin film as in claim 21 wherein said Lan represents neodymium.

Claim 38 (Currently Amended) ~~An integrated circuit~~ A thin film as in claim 21 wherein said Lan represents dysprosium.

Claim 39 (Currently Amended) ~~An integrated circuit~~ A thin film as in claim 21 wherein said Lan represents gadolinium.

Claim 40 (Currently Amended) ~~An integrated circuit~~ A thin film as in claim 21 wherein said thin film is ferroelectric.

Serial No. 09/998,364

Amendment and Remarks Responsive to Office Action Mailed 09/10/03

Page 4
189545v1

Claim 41 (Currently Amended) ~~An integrated circuit~~ A thin film as in claim 40 wherein said thin film forms part of a memory.

Claim 42 (Currently Amended) ~~An integrated circuit~~ A thin film as in claim 21 wherein said thin film forms part of a memory.

Claims 43 – 95 (Canceled)

Serial No. 09/998,364
Amendment and R marks R sponseive
To Office A tion Mailed 09/10/03
Pag 5
189545v1